REMARKS

This application has been carefully reviewed in light of the Office Action dated July 31, 2003 (Paper No. 9). Claims 31 to 39 and 41 to 85 are in the application, of which Claims 31, 51, 58 and 66 are the independent claims. Reconsideration and further examination are respectfully requested.

Initially, as to a formal matter, it appears that the Preliminary Amendment dated July 17, 2003 was not entered prior to the issuance of the Office Action. Since the Preliminary Amendment merely cancelled Claims 40 to 50, without changing any other claims, only the rejections to Claims 31 to 39 and 41 to 73 will be addressed herein.

Claims 49, 51 and 59, which were objected to for alleged informalities. Since Claim 49 is cancelled, and since Claims 51 and 59 have been amended, withdrawal of the objection and further examination of the application are respectfully requested.

Claims 43 and 72 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Claim 43 is cancelled, and Claim 72 has been amended to depend on Claim 71, which includes the feature of "at least one of a codec system." As such, reconsideration and withdrawal of the § 112, second paragraph rejections are respectfully requested.

Claims 31 to 73 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. In response, Claims 31, 51, 58 and 66 have been amended to change the feature of the "Internet" to an "internet," which is defined on lines 5 and 6 of page 7 of the specification as "a worldwide

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communication means." Accordingly, reconsideration and withdrawal of the § 112, first paragraph rejection are respectfully requested.

Claims 40 to 50 were rejected under 35 C.F.R. § 1.75(b) over Claims 32 to 52 of Application No. 09/988,572, for same-invention type double patenting. As indicated in the Preliminary Amendment dated July 17, 2003, Claims 40 to 50 are cancelled.

Claims 31 to 33 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 4,517,468 (Kemper) in view of U.S. Patent No. 5,245,554 (Tsuyama); Claims 34 and 35 were rejected under 35 U.S.C. § 103(a) over Kemper in view of Tsuyama and further in view of U.S. Patent No. 5,726,920 (Chen); Claims 36, and 66 to 68 were rejected under 35 U.S.C. § 103(a) over Kemper in view of Tsuyama and further in view of U.S. Patent No. 5,311,562 (Palusamy); Claims 37 and 38 were rejected under 35 U.S.C. § 103(a) over Kemper in view of Tsuyama and further in view of U.S. Patent No. 5,802,176 (Audebert); Claim 39 was rejected under 35 U.S.C. § 103(a) over Kemper in view of Tsuyama and further in view of U.S. Patent No. 5,694,325 (Fukuda); Claims 51, 52, 58, 59 and 65 were rejected under 35 U.S.C. § 103(a) over Kemper in view of Tsuyama and further in view of U.S. Patent No. 5,761,064 (La); Claims 53, 54, 60 and 61 were rejected under 35 U.S.C. § 103(a) over Kemper in view of Tsuyama and further in view of La and Chen; Claims 55, 56, 62 and 63 were rejected under 35 U.S.C. § 103(a) over Kemper in view of Tsuyama and further in view of La and Audebert; Claims 57 and 64 were rejected under 35 U.S.C. § 103(a) over Kemper in view of Tsuyama and further in view of La and Fukuda; Claims 69 and 70 were rejected under 35 U.S.C. § 103(a) over Kemper in view of Tsuyama and further in view of Palusamy and Chen; Claims 71 and 72 were rejected under 35 U.S.C. § 103(a) over Kemper in view of Tsuyama and further in view of Palusamy and Audebert;

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and Claim 73 was rejected under 35 U.S.C. § 103(a) over Kemper in view of Tsuyama and further in view of Palusamy and Fukuda. Reconsideration and withdrawal of the rejections are respectfully requested.

The present invention generally concerns remote maintenance for industrial equipment installed at a remote location. Specifically, a database is connected to the internet, where the database stores maintenance information relating to the industrial equipment. The maintenance information includes both status information relating to the industrial equipment and response information which is associated with the status information and which is used for handling a problem associated with the industrial equipment, as defined by the status information. Security is arranged so that a limited user of the industrial equipment is allowed access to the database through the internet to derive the maintenance information for handling the problem associated with the industrial equipment.

Thus, among its many features, the invention (i) stores maintenance information relating to the industrial equipment, where the maintenance information includes both status information relating to the industrial equipment and response information which is associated with the status information and which is used for handling a problem associated with the industrial equipment, and (ii) provides security so that a limited user of the industrial equipment is allowed to access the database system through the internet to derive the maintenance information for handling the problem associated with the industrial equipment.

Referring specifically to the claims, independent Claim 31 defines a remote maintenance system for industrial equipment installed at a remote location. The system

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comprises a database system which is connected to the internet and which stores maintenance information relating to the industrial equipment. The maintenance information includes both status information relating to the industrial equipment and response information which is associated with the status information and which is used for handling a problem associated with the industrial equipment, as defined by the status information. Furthermore, the system includes a security system that allows a limited user of the industrial equipment to access the database system through the internet to derive the maintenance information for handling the problem associated with the industrial equipment.

Independent Claim 51 defines a method for sharing information relating to industrial equipment. The method comprises the steps of providing a database system which is connected to the internet and which stores maintenance information relating to the industrial equipment, wherein the maintenance information includes both status information relating to the industrial equipment and response information associated with the status information and which is used for handling a problem associated with the industrial equipment, as defined by the status information, and allowing a first specified user of the industrial equipment with a first security system to access the database through the internet to derive the maintenance information. Furthermore, the method includes the step of allowing a second specified user, different from the first specified user, of the industrial equipment with a second security system to access the database system through the internet to derive the maintenance information, wherein the first and second security systems have different kinds of codec systems from each other.

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Independent Claim 58 defines a method for sharing information of industrial equipment. The method comprises the steps of providing a first database system which is connected to the internet and which stores first maintenance information relating to first industrial equipment, wherein the first maintenance information includes both first status information of the first industrial equipment and first response information which is associated with the first status information and which is used for handling a problem associated with the first industrial equipment as defined by the first status information, and providing a second database system which is connected to the internet and which stores second maintenance information relating to second industrial equipment, wherein the second maintenance information includes both second status information of the second industrial equipment and second response information which is associated with the second status information and which is used for handling a problem associated with the second industrial equipment as defined by the second status information. Additionally, the method comprises the step of allowing a limited user of the first industrial equipment and the second industrial equipment with security systems to access the first database system and the second database system through the internet and derive the first and second maintenance information.

Independent Claim 66 defines a method for sharing information relating to industrial equipment. The method comprises the steps of providing a database system which is connected to the internet and which stores maintenance information relating to industrial equipment, wherein the maintenance information includes both status information of the industrial equipment and response information which is associated with the status information and which is used for handling a problem associated with the

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industrial equipment, as defined by the status information, and connecting a plurality of departments of a vendor who which provides the industrial equipment, with a computer network system such that each of the plurality of departments is able to access the database system to derive the maintenance information, the plurality of departments including at least a maintenance department, a manufacturing department and a developing department. The method also comprises the step of allowing a user of the industrial equipment with a security system to access the database system through the internet to derive the maintenance information.

The applied art is not seen to disclose or to suggest the features of the present invention. More particularly, the applied art is not seen to provide for (i) storage of maintenance information relating to the industrial equipment, where the maintenance information includes both status information relating to the industrial equipment and response information which is associated with the status information and which is used for handling a problem associated with the industrial equipment, and (ii) security to allow a limited user of the industrial equipment to access the database system through the internet to derive the maintenance information for handling the problem associated with the industrial equipment.

Kemper discloses a diagnostic system in which a central diagnostic center receives sensor data concerning the operating condition of remote plants, where the remote plants record certain sensor signals and transmit these sensor signals at prescheduled transmission times. See Kemper, Abstract; col. 1, ll. 50 to 60, and Figure 1. If the sensor reading is out of range, indicating that the plant may have a problem, then the normal periodic transmission schedule is interrupted such that sensor readings are transmitted

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immediately or continuously so that the diagnostic center can perform an immediate analysis of the event, to prevent a dangerous condition. See col. 3, ll. 4 to 11.

In Kemper, under certain conditions, the diagnostic center can send back the results of the diagnosis, including plant information relating to plant status, actions to be taken by the plant operator, or any changes to me made. See col. 5, ll. 64 to 68. Specifically, the transmission may change certain timing parameters, such as threshold or rate limit values, in order to decrease or increase the amount of diagnostic data sent to the diagnostic center. See col. 6, ll. 41 to 58.

In this regard, while Kemper discloses transmitting the results of a diagnosis to the plant, Kemper is not seen to disclose that the diagnostic center stores maintenance information relating to the industrial equipment, where the maintenance information includes both status information relating to the industrial equipment and response information which is associated with the status information and which is used for handling a problem associated with the industrial equipment. Furthermore, Kemper is not seen to allow a limited user of the industrial equipment to access the database system, located at the diagnostic center, through the internet to derive the maintenance information for handling the problem associated with the industrial equipment.

Tsuyama is not seen to remedy the deficiencies of Kemper. Tsuyama discloses a quality control method for explaining the causes of failure in a product. Specifically, information relating to failure of the product and measures taken to correct the failure are stored, allowing the information to be subsequently analyzed for enabling an estimate of causes of the failure of the product. See Tsuyama, Abstract; col. 1, ll. 55 to 66; and Figure 3.

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The quality control method of Tsuyama is markedly different than the maintenance information of the present invention. In particular, in Tsuyama, a field serviceman records the type of the product which had the failure, the condition of the failure, parts used and the details of the repair work in a predetermined format. See col. 2, ll. 4 to 12. Since the failures are documented in a standard way, future generations of the product can benefit from improvements in design, evaluation of component parts, and improvement of the inspection system. See col. 2, ll. 20 to 26. Such a post-repair documentation system is seen to be different from the features of the present invention, in which maintenance information relating to the industrial equipment is stored, where the maintenance information includes both status information relating to the industrial equipment and response information which is associated with the status information and which is used for handling a problem associated with the industrial equipment, and a limited user of the industrial equipment is allowed to access the database system through the internet to derive the maintenance information for handling the problem associated with the industrial equipment.

Neither La, Palusamy, Chen, Audebert nor Fukuda are seen to remedy the deficiencies of Kemper and Tsuyama. In particular, neither La, Palusamy, Chen, Audebert nor Fukuda are seen to disclose the feature of (i) storing maintenance information relating to the industrial equipment, where the maintenance information includes both status information relating to the industrial equipment and response information which is associated with the status information and which is used for handling a problem associated with the industrial equipment, and (ii) providing security so that a limited user of the industrial equipment is allowed to access the database system through the internet to derive

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the maintenance information for handling the problem associated with the industrial equipment.

As such, even if Kemper, Tsuyama, La, Palusamy, Chen, Audebert and/or Fukuda are combined in the manner proposed in the Office Action (assuming for argument's sake that such combination would be permissible), the result would not teach or suggest at least the feature of (i) storing maintenance information relating to the industrial equipment, where the maintenance information includes both status information relating to the industrial equipment and response information which is associated with the status information and which is used for handling a problem associated with the industrial equipment, and (ii) providing security so that a limited user of the industrial equipment is allowed to access the database system through the internet to derive the maintenance information for handling the problem associated with the industrial equipment.

Accordingly, based on the foregoing amendments and remarks, independent Claims 31, 51, 58 and 66 are believed to be allowable over the applied references. The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define additional aspects of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance and such action is respectfully requested of the Examiner's earliest convenience.

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Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE TO SPECIFICATION

At page 1, line 7 the following paragraph was inserted:

--This is a divisional application of Application No. 09/294,333, filed April 20, 1999.--.

Please substitute the paragraph starting at page 1, line 10 and ending at line 18 with the following replacement paragraph.

--Maintenance against a trouble in an industrial equipment requiring maintenance, such as a semiconductor device manufacturing apparatus has been made such that, upon occurrence of a trouble, maintenance personnel instruct a countermeasure to an operator for the manufacturing apparatus through telephone or facsimile communication or directly visit a factory where the manufacturing apparatus is installed. This also applies to periodical maintenance.--

Please substitute the paragraph starting at page 2, line 24 and ending page 3, line 12, with the following replacement paragraph.

--According to another] Another aspect is attained by providing a monitor apparatus arranged on an industrial equipment side to constitute a remote maintenance system for maintaining an industrial equipment installed at a remote location, comprising, obtaining means

for detecting occurrence of a trouble of one or a plurality of industrial equipments and obtaining status information representing a state of the trouble, and communication means for notifying, through the internet, a management apparatus for performing centralized maintenance management of the industrial equipment of status information obtained by the obtaining means, and for receiving response information sent from the management apparatus through the internet in response to notification of the status information.--

Please substitute the paragraph starting at page 13, line 2 and ending at line 5 with the following replacement paragraph.

--If, however, a countermeasure is required (i.e., ["NO"] "YES" in step S402), the person in charge selects an appropriate countermeasure by looking up the information stored in the trouble database (step S403).--

Please substitute the paragraph starting at page 17, line 5 and ending at line 20, with the following replacement paragraph.

--Fig. 7 is a conceptual view of an industrial equipment maintenance system according to the second embodiment of the present invention. In the first embodiment, the plurality of user factories each having the industrial equipment are connected to the management system for the vendor for the industrial equipment through a communicating means, and the maintenance information of the industrial equipment of each factory is communicated through the communicating means. However, in the second embodiment, a [factor] factory having industrial equipments of a plurality of vendors is connected to the management systems of the

vendors for the plurality of industrial equipments through a communicating means using the internet, thereby communicating maintenance information of each industrial equipment through the communicating means.--

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